

PHONETIC FINGERPRINT AND JUDICIARY LINGUISTICS

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Abstract: This paper aims at analysing the proportional relationship between two sciences that seems to be interrelated to an important extent in fieldwork and efficiency of results. The first is a physical-phonological framework; however, the second is purely a linguistic-based one. The circle of fieldwork integration witnessed an expansion between the different fields of knowledge, and the reality of cooperation and participation in the various fields of research became a necessity. In this term, scientists considered the need to combine both devices, because of their accurate procedures to solve outstanding problems of mono-disciplinary fields. The judiciary field relies on very concrete and human items, in order to constitute its rulings, sentences and decisions so that material evidence is a direct face of judicial rulings. Nowadays, audio recordings and linguistic analyses are seed in investigations to solve outstanding issues and criminal complicated problems.

Keywords: Linguistics, proportional Relationship, Judiciary, Phonetic fingerprint, sciences

EMPREINTE PHONÉTIQUE ET LINGUISTIQUE JUDICIAIRE

Résumé : Cet article vise à analyser la relation proportionnelle entre deux sciences qui semblent être liées dans une large mesure au travail sur le terrain et à l'efficacité des résultats. La première est un cadre physique et phonologique, tandis que la seconde est purement linguistique. Le cercle d'intégration du travail sur le terrain a connu une expansion entre les différents domaines de la connaissance, et la réalité de la coopération et de la participation dans les différents domaines de la recherche est devenue une nécessité. Dans ce contexte, les scientifiques ont considéré qu'il était nécessaire de combiner les deux dispositifs, en raison de leurs procédures précises pour résoudre les problèmes en suspens dans les domaines monodisciplinaires. Le domaine judiciaire s'appuie essentiellement sur des éléments très concrets et humains pour constituer ses jugements, ses sentences et ses décisions, de sorte que les preuves matérielles sont la contrepartie directe des décisions judiciaires. De nos jours, les enregistrements audio et les analyses linguistiques sont utilisés dans les enquêtes pour résoudre des questions en suspens et des problèmes criminels complexes.

Mots-clés : Linguistique, Relation proportionnelle, Judiciaire, Empreinte phonétique, Sciences.

Introduction

After the opening of the judiciary to linguistic studies in Europe, especially after many cases were handled by investigators and policemen with linguistic clues, this type of study found a strong interest from linguists and judges alike, and even from phoneticians because of its connection to voice printing. So how has linguistics benefited the judiciary? How has it benefited from voice printing? And how did linguistic study open up to the physical judiciary? These and other questions could not be answered in the first half of the twentieth century, as each field was independent, as linguistic studies were confined to languages, physics to physicists only, and mathematics to mathematicians only, until the emergence of what is called interdisciplinary studies in the second half of the twentieth century, as a result of the development and explosion of knowledge at all levels and directions, scientific, humanitarian and social, which forced contemporary scientific studies to expand the circle of work and not limit it to the narrow corner of specialization. Interdisciplinarity is one of the emerging terms in our Arab cognitive system, and it is a combination of inter, which means between, and interdiscipline, which is the part of the knowledge field, so the term interdisciplinary was concerned with combining different knowledge fields and multiple competencies to achieve one common goal, by approaching the various procedures from those fields to serve the one purpose and goal (Jihad Hassan Kazim, *Interdisciplinarity: Its Origins and Significance*, 80). This overlap may be narrow between closely related fields such as literature and language or sociology and philosophy, or it may be far away and we do not believe for a moment that there is a relationship between the two, or what is called a broad interface, to bring together fields of knowledge that were not easy to combine before this time, such as mathematics or physics in language. When this field of study expanded, it was not strange or new for the judiciary to rely on applied linguistics, because applied linguistics is concerned with applying general linguistic theories to various fields such as education, the language of journalism, speech pathology, translation, and the judiciary, wanting to solve many issues that researchers would not have been able to study without separating it from general linguistics.

1. The concept of forensic linguistics and the reasons for its emergence:

Forensic linguistics, or judicial linguistics as it is called in North Africa (Algeria, Morocco and Tunisia), emerged in the second half of the twentieth century. It is one of the new fields that emerged as a result of integration and cooperation between cognitive fields, which is concerned with the study of many areas, the most important of which is proving the identity of the speaker Speaker Identification, and is widely used in recognizing the voice of a particular recording (Rose, 2000), achieving justice through language only, even if the evidence points to different facts (how many of those real cases recorded in the world, whose owners were unjustly sentenced for many years only because physical evidence pointed to them). that have been unjustly sentenced for many years only because the physical evidence pointed to them). This also includes author identification, a very important area in forensic linguistics, in which investigators rely on certain techniques and statistics in order to link a specific text to its author by (Lawrence, 1998). It also includes dialectology, which is often associated with audio or video recording, where the linguist is tasked with verifying the accent or dialect (which are two different things) and how close or far it is from the accent of the accused (Levy, 1994.) This is done through texts and written correspondence or Discourse Analysis, as well as Linguistic Origin Analysis, to be able to understand and comprehend the language of law and Legal Language Reform (Brennan, 2001; 2).

2. Its emergence

Specialists link the emergence of forensic linguistics to one of the researchers in the field of applied linguistics, Jan Svartvik, when he reanalyzed interrogation statements in the case of Timothy John Evans, in 1968, where the latter was accused of killing his wife and daughter, and when his guilt was proven after criminal investigations, the court sentenced him to death by hanging, and three years after the execution of the sentence, Professor Svartvik took an interest in Evans' file, and studied Evans' statements to the police during the investigation, and these statements were the ones that the court relied on to issue the death sentence against Evans. Evans' statements to the police during the investigation. These statements were the ones that the court used to sentence Evans to death. There were four statements, through which Professor Svartvik noticed stylistic differences and syntactic disorders in Evans' statements, especially between his original statement, in which Evans stated that he had committed the murder, and his other statements, which exposed his statements to contradiction.

Svartvik focused on the attributive relationships between Evans' statements, such as the relationship of the verb to the subject, the relationship of the subject to the verb, the relationship of the noun to the noun phrase, the relationship of the conjunction between the conjunction and the conjunction, and the positions of deletion and substitution, which are powerful linguistic clues in the cohesion and decay of the textual fabric, and other linguistic relationships with a superficial and deep dimension by tracing mental clues in cases of separation and tracking the subject in all attributive structures between the apparent and hidden subject - the passive voice -. This led to the following analysis:

- The emphasis on the passive voice suggests that the real killer's identity will not be revealed.

- The reliance on the abundance of logical clues further reinforces the idea of preserving the identity of the real killer.

- The abundance of internal references that emphasize the vicious circle in the labyrinth of not knowing the real perpetrator, because the external reference reveals him, and since he is unknown to John, he begins the journey of the internal labyrinth.

These linguistic clues made the linguist Svartvik make his final decision that John was never the perpetrator, and that the police made a mistake in sentencing him, then he moved on to the recordings of the accused's neighbor who testified against him - John Christie -. where he found a series of inconsistencies in his sentences and various linguistic structures, following the functional and logical linguistic clues used in those files recorded by the police immediately after the incident, and after a careful analysis of the various linguistic phenomena (linguistic and logical links in separation, connection, attribution, etc.), he felt that there were contradiction, confusion, and an attempt to cover up something, which prompted the request to re-interrogate the latter, and since the hearing was direct this time, the Svartvik confirmed that the neighbor was the liar, and the police exerted investigative pressure on him, which led to his confession to the crime (Antonius Nader, *Criminal Linguistics, Justice through Language*, 2019). After re-investigating and expanding the audio recordings and studying the witnesses, the court realized that John Christie, Evans' neighbor, had committed serious crimes, killed six women, including his wife, distorted the file and blamed others, and after shocking confrontations with him, he finally confessed to the murder, finally proving his guilt, and the court granted Evans a “pardon after death” (Antonius Nader, 2019).

The Evans case is the point that poured the cup and made judges acquiesce to a reality they were not previously familiar with, namely the reality of the linguistic material, as this case later forced the courts to write down the statements of the accused and submit them in writing, in their own letters and language and not in the language of the informants, and based on the results of this study, the courts drew the detention of the accused until the results of preliminary investigations or interrogation. ‘You have the right to remain silent, everything you say can be used against you.’ This is to prevent the suspect from uttering words that may be used against him when his linguistic fingerprint is analysed (John Olson, *Judicial Linguistics, An Introduction to Crime, Language and the Law*, tr: Mohammed bin Nasser Al-Haqbani, 2008, 1-2).

3. Areas of Forensic Linguistics:

Forensic linguistics has become the only way in many of the criminal cases recorded by the American police that could not be solved through the usual means, because it is sometimes non-existent and often insufficient, and it has shown that it is the high road to justice when it is available, so that police officers began to focus on the interrogation process immediately after the arrest of the suspect. With the necessity of filming, because sometimes language was not indicative if it was accompanied by gestures, body and hand movements, and eye gestures at times, and perhaps it goes beyond that to a change in the places of performance and emphasis of tone and intonation, and all these different aspects are very accurate and reach amazing facts, as they bring the hidden to the surface, because the voice is a mirror of the unconscious, according to Philly Sindri's opinion. Such mental disorders, lies or manipulation can only be detected through language, which is why clinical negatology relies solely on recordings in order to diagnose pathological conditions without them. Language is a double-edged sword, as it can implicate a suspect as well as save him, even if the physical evidence points to him, perhaps because he was in the wrong place at the wrong time, as is known in some criminal cases, such as in these areas:

-The first area is the language of legal texts

In a large part of its areas of application, criminal linguistics takes the study of legal or judicial texts as an important main document from which it starts to materialize and define different angles it focuses on in criminal work, starting with the type of texts and then the linguistic logical progression in judicial rulings, in addition to analyzing the words used and their lexical, grammatical and contextual connotations (J. Olson 2008, 2). This linguistic-legal analysis includes the review of various documents issued by legal bodies such as state constitutions, sharia rulings, wills, applicable legislative provisions, summonses, and laws issued by government departments (J. Olson, 2008, 2). These judicial laws are the safety valve of social life within the social institutions that organize human life and ensure social justice among them, and in order not to spread chaos and dilute power, every country tries to build its security and stability on a legislative basis that controls and deters at the same time for those who are tempted to wreak havoc and sabotage, and for this reason, we find that all countries try to draw laws that are applicable and enforceable. This is why we find all countries trying to draw legislative laws for them based on the consultations of the smartest and most important judicial figures, to discuss the various aspects among them, and this is why the first thing Hammurabi did to establish his state was to enact documents for it, which was later called the “Code of Hammurabi”, which is the most important legal document that has been found and for the completeness of its legislative texts. It should be noted that any

text or element of language is considered a judicial text when it is used in its legal or criminal context, and as such, it is a language that contains legislation.

-The second area is emergency calls :

Police stations receive millions of phone calls through the emergency number for reporting purposes, and this field constitutes a testing ground for the ability of the forensic linguist to detect the events that the speaker is going through, by extracting linguistic information that indicates certain situations, such as threatening, for example. Forensic linguistics analyzes emergency calls using a variety of linguistic techniques: “the rise and fall of the voice, the tone and pitch of the voice, and the vocal range that indicates the involvement of a third party in the communication” (Mohamed Awad, Penal Law, General Section, 1998, 32); for example, the urgency of the speaker by repeating the same words plays an important role in revealing the speaker's state of mind. The same goes for hesitation, stuttering, stammering, confusion, silence, starting and stopping, so-called disconnects, signs of evasion, incomplete or truncated answers due to silence or omissions, perhaps evasive speech, and many others that are not hidden to the criminal researcher. The use of a high tone of voice at the end of each sentence indicates insincerity, because a high tone of voice at the end of speech is a “defense mechanism” to hide certain information, while normal communication is characterized by the interweaving of words and the clarity of the tone of voice in a way that raises confidence or certainty that the caller will provide accurate and clear information. Normal communication is characterized by the interweaving of words and the clarity of the tone of voice in a way that creates a sense of trust or certainty that the caller will provide accurate and clear information.

The police are accustomed to these types of phone calls, making them able to detect from the first words whether the caller is telling the truth or not. However, they fail in certain cases when the callers are characterized by criminal confidence or serial psychological calmness in the case of committing crimes in the same way. The linguistic researcher, by listening to these calls and tracing their proper syntactic pattern with its performative manifestations, can easily detect lies, deception, or cover-ups through these audible syntactic manifestations.

-Third area: Ransom demands or threatening letters and calls

We may hear and read daily such manifestations in cases of kidnapping or attempted murder by threat. The police stay for long periods of time at the homes of those threatened, waiting for calls for the purpose of demanding ransom or contacting the threatener, and because threatening is the method that accompanies the ransom demand. Examination of linguistic evidence can reveal a lot of information from these long-distance calls, which can lead them to multiple possible ethno-religious and socio-economic profiles of the threatening caller, and often to his whereabouts by tracing specific place-specific sounds associated with these calls. In situations where there is a limited group of suspects, comparison and analogy between the language of the threat and the written documents of each suspect can help narrow down the group of suspects. We can see the analysis of the ransom note in the following kidnapping case. (J. Olson 2008, 2). Perhaps the most famous example of this occurred on 1 March 1932, when an intruder entered the home of aviator Charles Lindbergh in New Jersey and kidnapped his young child. More than two months later, the child's body was found nearby, but before the body was discovered, the kidnapper had left a ransom note on the windowsill in the child's bedroom, and Lindbergh paid the money in the hope of getting the

child back, only to have the money turn up in New York City just days later. The investigation led to the identity of the killer, a German immigrant with a long criminal record named Hauptmann. During his trial, eight handwriting experts studied the similarities between the ransom note and other samples of his writing. He was subsequently convicted of murder, four years after the kidnapping (Coulthard & Johnson; *The Routledge Handbook of Forensic Linguistics*, 2010; 01) and many similar cases are on the global record.

The Hauptmann case highlights another angle of forensic linguistics in which police or forensic analysts have moved from audio recordings to analysing handwriting - part of the application of forensic linguistics - because it is a key forensic evidence that falls under the term 'graphological' analysis (Coulthard & Johnson; *The Routledge Handbook of Forensic Linguistics*, 2010; 01), where the forensic investigator traces the shape of the handwriting and the way the letters are drawn (closed, open, angle of rotation, etc.), as well as the linguistic structures used to identify the suspect, perhaps the comma, which we consider to be a punctuation mark and to which our students do not pay attention. The criminal linguist John Olson revealed how he was able to identify a criminal through a series of text messages sent by the criminal himself from his victim's phone, in which he relied on noticing small differences in punctuation.

John Olson is one of the most important linguistic investigators in the world due to the number of cases he was able to solve, which exceeded 300 investigations, including identifying the identity of the killer of Mrs Diana Lee, who eventually turned out to be her lover David Ryan. In February 2012, Diana Lee was severely beaten in her home in England, and after her death, her lover mutilated the lower part of her body with a sharp saw and before throwing the body in the garage and setting it on fire to hide the traces of the crime and fingerprints (DNA). The perpetrator used his wealthy lover's mobile phone and started sending false text messages to her clients, asking them to stay away from the house, so that those who knew her would think she was alive (Coulthard & Johnson; *The Routledge Handbook of Forensic Linguistics*, 2010; 01). The forensic evidence that Olson relied on was the blanks that the perpetrator left after commas, which were unique to him after matching those letters with his own writings, because Mrs Diana did not leave such blanks in her private letters in her lifetime, and he also left blanks after. After a written reconciliation of those letters sent before and after her death, it was found that she was not the one who was writing them, but someone else, her lover, after a written search by the genius Olson, and he was sentenced to thirty-four years in prison. Written letters reflect the psychology of their owners, as confirmed by psychology. Closed eyes indicate a person's sadism, failure to complete the sentence to the end of the line means the writer's miserliness, and so on, which is also a unique fingerprint that is not shared by two people.

-The fourth area is suicide letters:

Suicide letters are one of the common blogs that the Department of Criminal Linguistics is interested in, and there are many of them in the terrible times due to the spread of frustration and despair in some societies due to social, political or economic circumstances. Perhaps the dominant feature of suicide letters is their shortness and abbreviation of many linguistic structures as a result of the circumstances associated with suicide, it is unnatural for a person to write a letter full of explanations and linguistic improvements when he wants to end his life - whatever the reasons may be -. At the same time, we find that it is characterised by clarity and accuracy to explain the reason and the most prominent motive for suicide so that it is not misunderstood.

The suicide message is usually addressed to a specific addressee(s), so that their names are explicitly mentioned, and they are in a certain relationship with the sender - the suicide bomber - and suicide messages contain sentences that indicate the method of suicide or the means adopted. They may include words and phrases that are used only between the sender and the addressee. They usually carry intimate connotations (Malcom Coulthard, Alison Johnson, *An Introduction to Forensic Linguistics*, Routledge, 2007; 12) Such as focusing on the most important moment or situation, which is usually intended to make the other person feel guilty or to think about resolving the situation with the rest of the addressees, depending on the suicide situation, between apologists, explainers, confessors, weak and sceptics, depending on the reasons for the suicide. These letters may contain ambiguity in some cases and do not indicate the main motive for suicide, but they cast shadows on other personalities who may not have any involvement, and the purpose is to implicate him only, but forensic analysts soon discover this through their study of the suicide letter.

-The fifth area is death row statements:

The most important thing to note about these statements is that they are often confused or contradictory, especially after the final verdict is issued by the court judge. Criminals initially confess to something and then quickly change their views after they sense that the final verdict is about to be issued in their favour, so they try with their linguistic arguments to change the impression on the court and jurors, such as denying committing the crime, disbelieving the witnesses, and so on. This type of field adopts the spoken and recorded language - in case of confrontation with previous statements - and analysts rely heavily on it in case the criminal denies his crime after the final verdict is pronounced, as he is met with the first recordings that reveal his involvement. In addition to what has been mentioned, there are other almost daily areas in which forensic linguistics mechanisms are used in resolving disputes related to trademark, property rights and intellectual theft cases, the most prominent of which is the dispute over the right to the 'Mc' morpheme between the 'McDonald's' restaurant chain and the 'McSleep' hotel chain (Potters, pp. 247-231).

-Fourth: Between voiceprint and linguistic fingerprint:

We often hear the terms voiceprint and linguistic fingerprint, but are they two different terms for the same concept or two different labels for two different concepts?

Part I: Voiceprint:

Human beings are born with many unique congenital features that differ from any other person, no matter how close to them, perhaps the most important of which is the handprint or fingerprint, which is one of the effective tools indicating uniqueness among human beings, as well as voices, although people may share similar vocal tones or certain characteristics that appear identical between speakers. However, close examination confirms that no two voices are ever identical; the factors affecting the linguistic voice such as frequency, vibration, height, breadth, intensity or pressure play a prominent role in vocal discord, not to mention the anatomical nature of the vocal cords, which confirms that the human voice is also a unique fingerprint for each of us, and it is impossible for two voices to match in those factors. Voiceprint or what is called the individual characteristics of the speaker, and 'are the spectral characteristics that exist and do not vary in a person's pronunciation of any linguistic expression' (Essam Nouredine, *Phonetics*, 1992, 142), and

thus means 'what distinguishes an individual from other members of his kind, from which appeared fingerprint, iris fingerprint, and biometric fingerprint. There are continuous attempts to prove that there is a voiceprint' (Mansour Al-Ghamdi, Arabic Phonetics, 2001, 168), but there is a study by some latecomers that confirms that "a voiceprint is an auditory impression of an individual's speech" (Reda Birch, Critical Issues in Contemporary Phonetics, 30), as when someone knocks on the door and asks who is inside: Who is it?

The answer comes: Me.

Before opening the door, the knocker repeats the answer: Don't you recognise me?

However, whoever was inside delayed in opening the door for other reasons, usually not because they did not recognise the knocker. It may happen to us that we ask once and repeat the second time only because the respondent's voice was not well captured, but after it is clear, we know the person immediately - I am talking here about people whose voiceprint is stored in our memory - while new voices are obviously not recognisable to us. The voiceprint enables us to identify the following areas:

- Recognising the speaker by being able to identify their sound waves or what is known as acoustic study, because only by analysing the waves can we determine the identity of the speaker.
- Achieving the identity of the speaker comes after matching the speaker's voice characteristics with those already stored voice characteristics, such as using them in cases of access to computer systems.
- Identifying the identity of the speaker, which is done after matching the physical characteristics of the speaker's voice with the previously recorded characteristics of the speaker, which are stored in police records, for example, and used in cases of crime.

This ability to identify a perpetrator by their voice is an old one, and came to the attention of the police after The American officer Lindbergh, when he told the police that the kidnapper's voice on the phone demanding ransom was the same voice in court, only to find out after investigation that he actually carried out the kidnapping and was sentenced (Mansour Al-Ghamdi, Voice Print, 1427 AH).

Due to its uniqueness, the voiceprint has enabled the police to solve criminal cases many times by referring to the recorded voice recordings and matching them with those found at the crime scene in special laboratories for investigation, experimentation, processing and analysis by specialised experts. The voiceprint is a distinctive distinguishing mark between individuals, as no two people are identical even if they are true twins, even imitators and those who professionally imitate voices, it was found in voice analysis laboratories that their physical characteristics of voices differ from the original, but they appear similar or perhaps identical aurally, and for this reason some managers of international banks may focus on their voiceprint and make it the password to open private safes, bank accounts or even electronic computers and access sites through the World Wide Web. Police or forensic analysts rely on these voice recordings when they are found to be attributed to their owners, while trying to scrutinise the shape, length and height of the wave. When the voice recordings are available to the system in the database and the match is made, the work is easy, otherwise the answer is -an unknown person-, but the question remains: Are voice recordings enough to identify the perpetrator?

The answer: It is impossible for the physical characteristics of two voices to be identical, even if they appear to us to be close to each other, expert analysis in specialised laboratories confirms the differences between them, which is why America and some major

countries have recently tended to set up a bank of voice recordings. The reason for this is to identify the owner of the recorded voice and not the perpetrator, as the recording may be accidental, such as communicating with the victim before the crime and the speaker is accused of the crime, especially with certain clues, and it has been proven in many criminal events recorded in the police records that the recordings are not always evidence of the perpetrator of the crime.

So the voiceprint is unique

Research II: Linguistic Fingerprint:

Criminal linguistics is concerned with the accused's language, voice, tones, facial features, messages, threatening words, and the most frequently used words in his everyday language. This led to the emergence of the term 'linguistic fingerprint': It focuses on the special impact that an individual's speech leaves, because it is his verbal behaviour and performance in translating his linguistic reservoir, his way of expression, his style of performing and weaving speech, or in scientific terms, it is the sum of the acoustic, semantic, visual, social, psychological and cultural characteristics that characterise a person's language (Al-Hindi, Asim, 2020, 122).

The process of speech or pronunciation, which Saussure expresses as social speech, differs from one person to another, while Chomsky calls it linguistic performance, is the application of those linguistic rules stored in the brain with which humans are born in the form of verbal expression, which varies from one speaker to another within the social environment. Each individual has what linguists call an Idiolect, which is a linguistic term that is a combination of the terms language and individual, focusing on the language of a particular individual within his or her community, such as his or her use of 'vocabulary, verbal behaviour, and manner of expression and speech'. The term 'sociolect' is used to describe the distinctive characteristics of a dialect or language associated with a group of individuals belonging to a single environment and society; it is usually embodied in those verbal characteristics used by individuals according to their specific contexts, as the slow ones have their own words and the educated ones have their own and intellectuals have their own words, conservatives reflect this in their speech, and open-minded people also. Linguistics has distributed these forms and styles of speech according to descending labels according to the degree of approach to the syntactic level of the language, patois, slang, jargon (Antoine Miyet, General Linguistics, 25).

These linguistic fingerprints are one of the methods that sociolinguists rely on to analyse the individual characteristics of the members of linguistic groups, and then determine their precise frameworks in order to extract the common features between the members of these groups. For example, Fendris was able to draw a geographical map of France in his book 'Language' on the basis of performative affinities. As for criminal linguistics, 'linguistics' or 'social dialect' together constitute the tool that is relied upon as criminal evidence to prove the suspicion of a perpetrator of a crime. Especially those who use threatening messages to prey on their victims. German Professor Raimund Drommel, a leading criminal linguist, says: 'In many cases, a sample of linguistic evidence is sufficient to open a criminal case against a suspect, such as a 'personal accent' or the suspect's use of a particular type of word, phrase or linguistic structure that is particularly frequent' (Raimund Drommel, Sprachprofilung - Grundlagen und Fallanalysen zur Forensischen Linguistik, Raimund Drommel, Frank & timme, 2015). This statement refers to the recognition of the value of spoken or written words, as they are able to influence the process

of perceiving events and knowing the identity of the participants, which explains why some criminal cases may fail to achieve justice.

Fifth, the history of the emergence of the term:

The desire to achieve justice and openness to other fields of knowledge to serve the common goal led to the emergence of this new science in America first to move to the rest of the world, where the term and science of ‘criminal linguistics’ appeared in 1968 by the linguistic researcher ‘Jan Svartvik’ during his re-analysis of the statements of Timothy John Evans in the records of the investigating police, which took place in four stages, where he noticed the presence of different stylistic signs between the recordings, and began to analyse them according to their different linguistic levels, as he started from the attributive position. In the explicit sentences, taking attributive verbs as his way between an auxiliary and main verb, whose subject may be visible or hidden, and relying on the compositional interpretations of these recorded texts, he was able to find a number of contradictions between his statement in which he confessed to killing his wife, and the other three statements in which he began to find a different style that eventually led him to conclude that Evans did not kill his wife and daughter, so that he was actually acquitted after the case was reopened and the real perpetrator was identified, which was three years after the death sentence was carried out, unfortunately.

Sixth: Linguistic fingerprinting techniques

A person's linguistic fingerprint is his own style and way of speaking, i.e. his own way of performing his linguistic system, which differs from one speaker to another, as the essence of the human being lies behind his spoken and written language, as it is the mirror of the unconscious and the only linguistic means of expressing the individual unconscious (there are other non-linguistic methods of expression and communication such as body language, head and eye movements, etc. Jacques Lacan says that the unconscious is the primary source of language, and the human unconscious is designed like language, with its own laws and rules for constructing phrases and essential qualities. (Al-Messadi, *Linguistic Thinking in Arab Civilisation*, 1981, 63) Perhaps the technical elements on which the linguistic fingerprint is based in judicial applications are:

Firstly, the vocabulary:

Every speaker has a vocabulary that he has stored from his social environment and his frequent friction and communication with others, and during the process of communication, the speaker resorts to that vocabulary and carries out an organised selection process at both levels, the horizontal axis represented in the composition and combination, so you do not find him depart from the attributive structure in his native language, and the vertical axis represented by his use of synonyms, antonyms, or whatever he wants about specific and specific substitutions on the horizontal axis that suit the connotation of the spoken discourse and convey the mental perceptions he wants to draw to the listener, and the case of the famous dog club treasurer is an example of relying on the verbal lexicon in discovering the identity of the criminal (Olson, 2008, 1, 2). 2).

Secondly, the verbal image:

The image conveyed between a speaker and a listener can only be drawn by linguistic structures, as language is the only one capable of conveying those images in the mind of the speaker that he wants to convey to a listener, and for this, the pictorial theory emphasises

the need to carefully select the words to reflect the image between the two poles of the communicative process correctly, and this can be done through the following steps: The image is well represented in the speaker's mind, i.e. the speaker realises the idea he wants to express. Choosing the appropriate words for those expressions by drawing on his vocabulary. Speak and convey verbal images to the listener, making sure that the listener has the same perceptions and expressions that the speaker intended

For this reason, communicating perceptions and sensations necessarily requires a linguistic construction whose essence is the drawing of words charged with sensation and emotion, in which the speaker, whether an individual or a people, combines the multiple external realities of the universe, unifies them, and recreates them according to a deep psychological vision that expresses an intellectual and emotional point of view, in words and artistic forms. Linguistic psychology confirms that the speaker's images are the main contribution of the speaker's consciousness, and that they show his tendencies, inclinations, psychological conditions, strength, ferocity, weakness and familiarity, so it is possible to access the speech imprint through the speech image by analysing its two levels, and interpreting this under two levels of effectiveness: The semantic level (semantic function), which is a direct surface level, and the psychological level (psychological function), which is an implicit level that is discovered through cohesion, coherence and deduction (Al-Hindi, Asim, 2020, 121-129).

Third: Speech rhythm:

It is also called suprasegmental colouring, because it is related to two important levels of linguistic performance, namely intonation and intonation, and these two distinctive features differ from one individual to another, and they are discriminatory features that can change the connotations when their performance and places of adoption differ in the spoken language sentence, as 'most rhythmic music theories explain that the roots of rhythm are rooted in the depths of the human personality, as when it emerges it is not only sounds, but it is charged with a range of emotions and feelings that the character has in this The roots of rhythm are rooted in the depths of the human personality. When it emerges, it is not only sounds, but it is charged with a set of emotions and feelings that the character experiences in this situation, and the rhythm is in fact a rhythm of feelings, emotions and emotions, it is the spirit of the speaker that flows in the text, depending on the psychological activity of the speaker' (Al-Hindi, Asim, 2020, 121-129). 129), even today we find some scholars relying on it to reveal hidden emotional impulses in analysing poems. Western courts have always been proactive in employing linguistic data in cases that they deemed difficult or intractable due to the lack of direct physical evidence, as they have resorted to trapping in various cases in multiple ways, including:

- Lexical density.
- Calculate the average word length.
- Calculating the average length of a sentence.

For example, Olson's analysis of the Glovelli suicide note, where he determined that the note was double-authored; based on a rhythmic analysis based on the average length of words and sentences, he found that the letter contains two types of paragraphs, one of which is full of paired syllables, i.e. phrases with synonymous words such as: (your pain, your sorrows, your goals, your dreams) The average length of the words is higher than the length

of the words in the second paragraph, which is devoid of even syllables, two people wrote the letter (Al-Hindi, Asim, 2022, 121-129).

The material in the Arabic language in criminal linguistics is scarce compared to other linguistic studies. What is in the hands of the researcher wishing to study this type of study are only articles scattered here and there, and the reason is the lack of Arab interest in this type of work, as Arab courts are completely devoid of linguistic analysts who help in solving criminal cases, and the method of investigation in the Arab world does not exceed its traditional form based on physical evidence or direct confessions. Even if these confessions are sometimes caused by a cover-up of the real perpetrator, such as what I once saw on the Algerian channel Al-Shorouk in its famous segment 'Al-Shorouk Tahqiq', a segment that presents criminal cases in Algeria and how investigators deal with them (the segment is broadcast every Tuesday at 7 or 8 pm) to discover the perpetrator, where a husband confessed to killing an intruder in his house at night to cover his wife only because she was the main killer in the case, as her husband was at work during the crime - at the time of the offence he was working as a night watchman -. The burglar broke into her house at night and she wanted to stop him, but she shot him dead. She called her husband afterwards and he had to confess to the crime he did not commit, and he was jailed after that, but the case was later reopened for other reasons. Whether we like it or not, judicial linguistics is a way for jurists to judge the credibility of many evidence with linguistic witnesses, but it remains unknown in our Arab world - I personally confirmed this by discussing the idea with some judges and lawyers in the state of Sidi Bel Abbes - and even lawyers who practice university education have never heard of the term - and there are many of them - although the issues raised did not seem strange to them.

A field study - based on a questionnaire - conducted by an Algerian researcher named Ahmed Nouredine Larbi from Kassidi Merbah University, Ouargla, Algeria, asked a set of questions to 100 legal professionals from ten Arab countries - a small sample compared to those who practice judiciary and law in the Arab world, but sufficient to explain the situation in judicial institutions. The researcher confirmed that the vast majority of the respondents are ignorant of both the science and the term (Ahmed Nouredine Al-Arabi, *Judicial Linguistics in the Arab World*, Athar Magazine, 2017, 43), and that only a few of them are aware of its existence in Western countries and are reluctant to promote it and apply it in Arab countries. Language and law are two sides of the same coin, as the legislators stipulated those constitutional laws governing the affairs of the country and the people in a precise and exact language in which there is no room for ambiguity and ambiguity, nor interpretation, except in some cases where we hear - the law does not protect fools -. However, language remains the true face of the law. The law does not 'stand without a language that embraces it, removes its blindness, speaks its language and argues for its statement, as understanding the judgement and understanding its meanings and terms can only be done through one tool: language' (Ahmed Nouredine, 2017, 43), while the superficial person who does not understand the secrets of language cannot understand it. Therefore, you find the lawyer known as the man of law is the person who focuses on the particles of each material by identifying its structural components that leave no room for interpretation or those that can be penetrated by some practitioners of judicial work, due to linguistic lapses and gaps, trying to fix them every time.

Judicial linguistics, with its scientific procedures and rigorous application methods, became a science in America in 1968, and then moved to Europe in 1985, when the Birmingham judiciary hired linguistic researchers to decipher and analyse handwriting for

the purpose of attribution (Roger Choi, 1993), and because of the impressive results achieved by linguistic analysts in Birmingham. achieved by linguistic analysts in solving many mysteries of criminality, kidnapping and theft, judicial linguistics became an intentional science in its own right that is widely used and demanded in all countries of the Western world, so much so that Coulthard founded a special journal called 'Language and Criminal Law' in 1994, which is dedicated to it and the achievements of its affiliates. Thus, this science has gained the trust of many government departments in many developed countries and has become a part of all courts, investigation departments, and criminal or judicial research laboratories that rely on specialists in research and linguistic analyses of written or oral records related to the criminal case. Thanks to social media, the researcher Ahmed Nouredine Balarbi communicated with legal professionals, including judges and lawyers who work in courtrooms, and selected 50 questionnaires for judges and 50 questionnaires for lawyers from 10 Arab countries, namely: Algeria, Tunisia, Morocco, Egypt, Sudan, Jordan, Lebanon, Qatar, UAE, and Saudi Arabia for the sake of diversity and ease of communication (Ahmed Nouredine Balarabi, 2017, 44).

The researcher mentions that he communicated with lawyers in Algeria and Tunisia in the field: 'We met them face-to-face because we knew them personally and because of geographical proximity and easy access, and it is worth mentioning here that the legal professionals were welcoming and generous in responding to our questionnaire We contacted the above-mentioned legal professionals after reviewing their names in the legal departments where they work' (Ahmed Nouredine Balarabi, 2017, 44).

The researcher's questionnaire revolves around three main axes. The first is on the identification of identity, 'Our aim is to determine the extent of legal professionals' knowledge of this linguistic study in its Arab or Western context' (Al-Arabi Nour Baldin, 2017, 44), the second is on "legal circles and suicide messages", to determine the use of legal circles and the extent to which they adopt the idea of analysing suicide messages. The third is devoted to judicial linguistics in Arab courts in order to investigate the view of Arab jurists towards this type of science and to find out the reasons why they do not engage in judicial reasoning. As a matter of scientific honesty, we will present the researcher's questionnaire and its results as mentioned in his research (Ahmed Nouredine Belarbi, 2017, 45 ff.), followed by what we observed during our field sessions with some jurists in Sidi Bel Abbes, Algeria. First question: Have you come across a science called: 'Judicial Linguistics' - "Judicial Linguistics" - "Legal Linguistics" - Legal Linguistics?

Yes () No () - If yes, please specify the name that you came across:

The researcher says that only ten (10) people from the sample answered 'yes' out of a hundred (100) 'This means that 90 per cent of them have never come across any of the titles that we suggested to them, and this indicates that judicial linguistics with its boundaries and names is still completely unknown in legal circles and circles, which makes it imperative for Arabic language experts to make more effort in order to introduce this science in the Middle East. This makes it imperative for Arabic language experts to exert more effort in order to introduce this science to the legal community.' (Ahmed Nouredine Balarabi, 2017, 45) He separated them as follows:

Judges: Two (02) from Saudi Arabia and one (01) from Morocco.

For lawyers: Two (02) from Algeria, three (03) from Morocco, one (01) from Saudi Arabia and one (01) from Egypt.

In fact, the researcher's result is unfortunately correct, as most of the legal professionals - if not all of them - are completely ignorant of this science, not to mention its

name, although they know the method of analysis and its importance in uncovering criminal cases, but they believe that these linguistic clues do not need a linguistic expert to know their shadows, and experiences in America and Canada proved the opposite of what they believe, but what saddened me a lot are lawyers who practice education within the university - and the generalisation is not true -. How did they miss this important aspect of cognitive development? (I stress here that I am not generalising my judgement, but it is based on those I spoke to).

Second question:

Where, to the best of your knowledge, can this science be utilised? Mark (*):

In legal disputes(...) - In drafting a legal text(...) - Other Specify(...).

The author of the questionnaire wanted to brainstorm the level of acceptance of this new knowledge by the legal profession, 'If most of them have never heard of it, can they at least guess by naming the field of its function?' (Ahmed Nouredine Belarbi, 2017, 45) Most of the people involved in the applied study (63 per cent) answered that judicial linguistics can be used in drafting the legal text based on the relationship between law and language, i.e. 'we need it in legislation as they see it as related to the language of the law and not the law itself and legislation is based on a language in which the law is written. The remaining 37 per cent thought that it falls within legal disputes' (Ahmed Nouredine Balarbi, 2017, 45). The answers of the gentlemen indicate their superficial understanding of the term, as some of them linked it to language or language and answered that it is used in drafting the law, while others linked it to the judiciary alone and answered judicial disputes, and their knowledge of the correct field of operation of judicial linguistics remains unknown, because the question was sudden, if we returned to them today, they might answer extensively after referring to the materials of this science.

Third question:

To your knowledge: Do universities teach this science? Yes(...) - No(...)

If the answer is 'Yes', tick (*):

For students of arts and languages (...) For students of law (...) For students of humanities and social sciences (...)

Perhaps the aim of the question is the researcher's attempt to verify the previously established concepts through the first and second questions, whether their answers were based on conviction or whether they were superficial and only touched the term.' This is what we saw clearly in the answers, if the vast majority of them did not know judicial linguistics by name, how could they say that this lesson is a curriculum taught in universities? Have they studied it before? Were they not university graduates? The answers that the university teaches this course came by 70 per cent, which indicates that the majority see it as an academic lesson that has its results and uses on the field, but at the same time they admit that they do not know it. Perhaps the 30 per cent who answered in the negative were more credible as they answered from their experience during their graduation at the university' (Ahmed Nouredine Balarabi, 2017, 45).

Fourth question:

Did you study this scale at the university at the graduation or post-graduation stages?

As if the researcher was repeating the question in another form, in order to determine the sincerity of the previous answers, but the answers were all 'no', which means that they

did not study it as a scale and were not exposed to it in its basic or exploratory horizontal form 'The aim of the question was to first ascertain the credibility of the answer to the questionnaire. We found that the answers were all in the negative, i.e. 100 per cent said that they did not study judicial linguistics as a standard or even as a secondary axis of their university courses' (Ahmed Nouredine Balarabi, 2017, 45). Although Arab universities teach linguistics to students enrolled in the Faculty of Arts and Languages, and at different levels, from the first year to the master's degree, and some of them even take it as a specialisation in their doctorate, it is not included in the ministerial programmes, as we teach them general linguistics and applied linguistics. We teach them general, applied and Arabic linguistics, and linguistic schools, but there is no special scale for this vital field that is deep in its investigations and procedures, and some of the professors may refer to it while talking about the fields of applied linguistics only those who were familiar with it without depth, even the students of the Faculty of Law - According to the distribution of standards sent by the Ministry, they do not study a standard called judicial linguistics, despite the large number of standards, especially in the master's degree, where specialisations are determined, medical law, labour law, criminal law. You find that after asking them the question, they think that it is concerned with the development of law and legislation, so they take from the term only the word judiciary.

Fifth question:

Have you ever encountered in your legal department the acquittal or conviction of a defendant after a linguistic analysis of the evidence? This question was confusing because the answers obtained by the researcher were: 'All responses acknowledged that they had at least once encountered a case that was purely linguistically based, so the percentage of yes answers was 100 per cent. The difference between practice and theory is clearly evident here, as it seems that although the jurists do not know judicial linguistics, they constantly practice the foundations and principles of this science and find it always present in almost all cases, but they did not study it only academically. (Ahmed Nouredine Balarabi, 2017, 47), between reality and theory is a clear world, because most of the respondents confirmed their knowledge of this type of material evidence, but there is no existing science that deals with it and provides procedures and methods for it.

Sixth question:

Have you ever read a suicide note? Yes (...) - No (...) The answer was, of course, 'Yes' because these letters are in the police records of suicide cases and are seen by law enforcement officers who dealt with the case, but the researcher adjusts the percentage by saying: 'The percentage of those who answered that they had seen a suicide note was 92 per cent, and only 8 per cent had never read this type of letter' (Ahmed Nouredine Balarabi, 2017, 47).

Seventh question:

Those who answered 'yes' were then asked the following question: - Did you suspect that it might be a fake? Yes (...) - No (...). The result was that '100 per cent had at least one suspicion about at least one of the many letters they read, a percentage that indicates the civility and intuition of the legal man who is always present and does not take things lightly' (Ahmed Nour Baldin Al-Arabi, 2017, 47).

The researcher again links the answer to another question

If your answer is 'yes': What makes you suspect that it is a fake? Tick (*)

Its language(...) - its content(...) its location from the victim(...) other Specify(...).

The answers varied, with the lion's share (47%) going to language, with its statements and narratives of the reasons for suicide, and perhaps their answers tended to be logical, as there is no evidence higher than the confession of the reasons for suicide, which is confirmed by the percentage of content that came close to it (40%). As if they linked the language to the confession, hence their ignorance of the possibility of falsification even in confession letters. Therefore, the author of the questionnaire believes that 'the content intended by the respondents is the subject of the letter, its details and its relationship to the incident as it happened, and not the content related to the language of writing it' (Ahmed Nour Baldin Al-Arabi, 2017, 47). A simple focus on the answers to the questionnaire reveals that they focus on language in its superficial form rather than its deep form, or what we previously defined as the linguistic imprint, i.e. the characteristics of the individual in his written and verbal structure, nor the content in its precise rhetorical forms based on his style of formulation and linear drawing, thus remaining intuitive answers and unrelated to the outputs of judicial linguistics. The key question, which I also posed to a group of judicial officers, was:

-Do judges hire linguistic experts for every suicide note? -Yes (...) -No (...)

The answer was a unanimous 'no', for the researcher and for me. The fundamental question remains: Is there a lack of specialists in judicial linguistics from linguistic researchers? Is it because the judiciary and the law do not trust a linguistic analyst, or what?

The lack of prevalence of this type of knowledge in the Arab world has prevented the use of linguistic analysts to uncover cases with linguistic evidence (letters, recordings...), and the Arab world remains far from such sophisticated practices that condense knowledge from different and disparate fields. This matter was realised by the West many years ago, and today we live in a small village due to technological development, but we cannot or do not know how to keep up with them in this regard, although the matter is very simple (I will put it in the form of suggestions in the conclusion).

Another important question that deepens the myopia of the Arab judiciary:

- In your opinion, why don't legal professionals pay much attention to linguistic analysis of suicide messages as a tool to help determine whether the message is false or not? Put an asterisk (*) in the appropriate place:

-The results of the analysis cannot be scientifically based(...).

-The results of the analysis can change as the expert changes (...).

Seventy per cent of the judiciary responded that they do not call linguistic experts because their analyses would be purely linguistic and based on a purely linguistic basis that has nothing to do with science, and because of this, they fear that the results will be very subjective and change with the change of the expert."(Ahmed Nouredine Elaraby, 2017, 47) These answers show the judiciary's short-sighted view towards linguistic evidence, which can be an important piece of evidence. How can a linguistic analyst base his opinion on a subjective basis? This is a joke, because a linguistic analyst is a person who bases his thought on handwriting techniques, subjective uniqueness, language and its characteristics, and other precise techniques that have proven their worth in the courts of Europe and America.

What confirms this narrow view and distrust of linguistic analysts is the following question:

Can forensic linguistics help in deciphering suicide messages?

Tick (*) Yes always(...) - Yes sometimes(...) - No never(...).

As expected, the answers were sometimes ‘everyone chose to hide behind the in-between’ so as not to give an indication of an extreme answer that could be completely right or completely wrong. This in-betweenness indicates that their knowledge of this science is no more than zero per cent. Although the answer in itself is correct, our analysis of the pre- and post-responses made us firmly believe that their choice of ‘yes sometimes’ stems from ignorance of judicial linguistics and not just an expert opinion.’ (Ahmed Nouredine Balarbi, 2017, 47) Such an intermediate answer increases the depth of scepticism about the abilities of the linguistic analyst's ability to decipher manual or voice messages and then attribute them to their actual owners, ignoring, intentionally or not, that linguistic studies today are based on accurate scientific data that has managed in many cases to impress the world's most powerful courts, and what happened in the cases mentioned above is evidence of this. The closure of the Arab judiciary to itself and adherence to the usual procedures has often led to inappropriate adjudication of cases, and today there are cases in the Arab world that have been unjustly accused, and some of them are teetering outside the ceiling of justice due to insufficient evidence.

Conclusion

Law is the safety valve of peoples and the reason for their comfort, and language is the hump of the law and its ride, either in control or investigation, and one is hidden behind his tongue, so the mathematical equation is correct. Justice can be achieved through linguistic recordings, whether written or spoken, and perhaps those examples that we mentioned in America are the biggest proof of this, and despite what this type of investigative procedures generated by judicial linguistics, our Arab world, as usual, refuses to ride this science, for various reasons, I can record the results I have concluded in the form of recommendations: Judicial linguistics is an interdisciplinary science. Judicial linguistics is a science in its own right, with precise scientific procedures that are far from subjectivity and prejudice, as some Arabs imagine. The linguistic criteria used by the linguistic analyst or linguist are precise and cannot lead to erroneous results except in rare cases, which is why some regimes used to ask those they wanted to attach to their spy card to write continuously, and based on the shape of the handwriting and the way the letters are drawn, they can pick out the money-loving, weak and enslaved personalities. - Phonetic fingerprinting is different from linguistic fingerprinting and the relationship between them is the relationship of the part to the whole. The Arab world is not confident in this linguistic science, and efforts should be intensified between the two disciplines. I suggest that the Department of Law dedicate a course on judicial linguistics, and the same in the Faculty of Arts and Languages. Accompany linguistic analysts to the criminal police in those cases that rely on linguistic evidence. Increase the number of seminars and lectures defined by science with the analysis of different samples that may not be related to the crime, but to instil confidence in the investigating police towards linguistic analysts.

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